

XIX.—Notes on Phasmidæ.—By J. WOOD-MASON.

(With Plates II and III.)

MENAKA SCABRIUSCULA.

Bacillus scabriusculus, Wood-Mason, J. A. S. B., 1873, Vol. xlii, pt. ii, p. 55, pl. viii, fig. 1, ♀.

Sitheneboea Brunneri, Stål, Recensis Orthopt. III, 1875, p. 69, ♀.

Menaka scabriuscula, Wood-Mason, MS.

I have seen numerous examples of this species in boxes of insects from Silhet, the locality given by M. Stål for his species; but none of them differed sufficiently from those described by me to merit distinction even as a variety.

It is an insect with short and filiform antennæ, and as it differs in this as well as other respects from all the forms with which it has been classed by M. Stål, I here introduce the new generic name that I had proposed for it.

LONCHODES WESTWOODI.

Bacillus Westwoodi, Wood-Mason, J. A. S. B., 1873, Vol. xlii, p. 51, pl. v, figs. 1, 2; P. A. S. B., 1873; p. 149; and Ann. and Mag. Nat. Hist., 4th Ser., 1873, Vol. xii, p. 348.

Lonchodes Westwoodi, id., J. A. S. B., 1875, Vol. xlv, p. 215, ♂.

Entoria spinicornis, Stål, Recensis Orthopt. III, 1875, p. 72.

M. Stål's* *Entoria spinicornis* from Silhet comes to me to be identical with the species described by me from the Andamans. I have since found it in abundance in Calcutta, and have ascertained that it occurs also in Silhet and on Camorta Is., Nicobars.

I have made a number of interesting observations on its habits and anatomy which will be published in due course.

It lives on *Streblus asper*, a shrub or small tree which is indigenous wherever the insect is found.

BACTERIA SHIVA, Pl. II, Fig. 3, ♂.

Bacteria Shiva, Westwood, Monograph of Phasmidæ, 1859, p. 32, pl. viii, fig. 6, ♀.

HAB. Westwood gives "North India" as the locality of the female preserved in the National Collection. Lt.-Col. Godwin-Austen has obtained

* I take this opportunity of thanking M. Stål for his friendly transmission of copies of all his memoirs on the Orthoptera, including his new '*Systema Phasmidarum*' which, on my return to India, I shall take an early opportunity of comparing with my own materials.

several specimens of both sexes at Shillong, in the North Khasi Hills, and has thus enabled us to give a more precise locality for the species.

I now give a figure of the male, which was unknown to Westwood, but am obliged to reserve my description of it for a future paper.

The species in both sexes runs so very close to a winged species (apparently a variety of *Necroscia Sparaxes*, Westw.) from the same region that it now occurs to me that it may after all be nothing more than an apterous form of it.

BACTERIA SINKIEBENSIS, n. sp.

♂ ♀. Differs from *B. Sarawaka*, Westw. ♂ ♀ chiefly in the relative proportions of the different parts of the body.

The following are the measurements of dried specimens of the male and female:—

♂. Total length 32 lines; head 1.75; proth. 1.75; mesoth. 8.75; metath. 4; abd. $13.25 + 3 = 16.25$; antennæ 28.5.

♀. Total length 3 in. 6 lines; head 2.5 lines; proth. 2.25; mesoth 10.75; metath. 4.25; abd. $18.5 + 3 = 21.5$; antennæ 31.25.

HAB. Sinkieb (Sinkep?) Island, near Linga Island, off the N. E. coast of Sumatra, a male and a female taken *in copulâ* by my native collector.

LONCHODES AUSTENI, Pl. III, Fig. 4, ♂.

Wood-Mason, J. A. S. B., 1875, Vol. xlv, p. 216, ♂.

HAB. Dikrang valley, Assam.

I have nothing to add to my original description.

RHAPHIDERUS CERBERUS.

Anisomorpha? *Cerberus*, Westwood, Monograph of *Phasmidæ*, p. 19, pl. I, fig. 6, ♂.

A spirit-specimen of the male, the only sex at present known, measures:—

♂. Total length 2 in. 2.25 lines; head 2.5; proth. 2; mesoth. 4.75; metath. 2.75; abd. $9.5 + 4.75 = 14.25$ lines.

HAB. Pusalava, Ceylon (*H. Nevill*).

I place the species provisionally in the genus *Rhaphiderus*, because it not nearly approaches *R. scabratus*, with which it also agrees in its highly polished integument.

LONCHODES NEMATODES.

Phasma (Bacteria) nematodes, De Haan, Orthopt. Orient. p. 133, pl. xi, fig. 6, ♂, nom. pl. xiii, fig. 1, ♀.

Lonchodes nematodes, Westwood, Monograph of *Phasmidæ*, p. 42, ♂ only pl. v, fig. 7, ♂.

HAB. Buitenzorg in Java, and Sumatra (*♂ De Haan*); Singapore (*♂ Westwood*); and Perak, Malay Peninsula, whence I have just obtained for the Indian Museum a specimen of the male agreeing in every respect except size, as to which it is slightly inferior, with the specimen in the British Museum from Singapore figured by Westwood; it was purchased from a collection of insects formed by one of the medical officers attached to the Perak Expedition.

LONCHODES BREVIPES.

Lonchodes brevipes, G. R. Gray, Syn. Phasm. p. 19, *♂*

„ *pterodactylus*, id., op. cit. p. 19, *♀*.

Phasma (Bacteria) nodosum, De Haan, Orthopt. Orient. p. 133, pl. xi, fig. 3, *♂*.

„ *Sumatranum*, id., op. cit. pl. xiii, fig. 6, *♀*.

Lonchodes brevipes, Westwood, Monograph of *Phasmidæ*, p. 36, *♂ ♀*.

„ *nodosus*, id., op. cit. p. 37, *♂ ♀*.

I have carefully examined and measured the typical specimens of Gray's species preserved in the National Collection, but failed to detect the slightest difference between them and De Haan's species, of which a multitude of specimens of both sexes was obtained some years ago by my native collector at Johore* in the Malay Peninsula and on the island of Singapore immediately opposite. The specimens described by De Haan were from Sumatra, those by Gray from the Malabar Coast. I have also a specimen of the female presented to me by my late friend Dr. Stoliczka, which was said by him to have been brought from Java.

The following are the measurements of two of the typical specimens

* Similarly, the metallic coloured *Mantis*, of which my native collector obtained numerous examples at this same place, has proved identical with the species (*Metallicata splendida*) described many years ago by Westwood from Malabar. The species, like so many other metallic insects (*e. g.*, notably *Chiloloba acuta*, of which fiery red with all the fire of the opal, green, and blue specimens, with all connecting shades, can be collected at Sahibganj in a few minutes; *Heterorrhina elegans*, and other *Cetoniidæ*), exhibits the phenomenon of dichroism, the blue (*M. violacea*) being structurally perfectly indistinguishable from those that are green with coppery reflections (*M. splendida*). To place the matter beyond all doubt I submitted specimens of each form for comparison with the type to Professor Westwood, who also was unable to detect any difference between them save that of colour.

The larvæ are all coloured, as to their legs and bodies, like the blue form of the imago, thus exhibiting, as appears to me probable, an ancestral phase; and if this be so, then the dimorphism would in this case, at any rate, be interpretable as the retention, throughout life, of larval, that is, ancestral, characters by certain individuals of both sexes; and this may be the true nature of dimorphism in insects in general. But we are as far as ever from understanding what profit or advantage it can be to a species to exist under two or more different forms.

preserved in the British Museum with Gray's own names and the locality (Malabar) still attached to them :—

♂. Total length 4 inches; head 1·75; prothorax 1·75; mesothorax; 13; metathorax 9·25; abdomen 17·75 + 5 = 22·75 (*L. brevipes*).

♀. Total length 4 inches 9 lines; head 3; proth. 2·25; mesoth. 13·25; metath. 10·5; abdom. 22·5 + 6 = 28·5 (*L. pterodactylus*).

The following those of a male and a female from Johore and both preserved in alcohol :—

♂. Total length 4 in. 1·5 lines; head 1·75; proth. 2; mesoth. 13·25; metath. 10; abd. 18 + 4·75 = 22·75; antennæ 28·25 lines.

♀. Total length 5 in. 6·25 lines; head 3; proth. 2·5; mesoth. 15·25; metath. 11·75; abd. 27 + 6·75 = 33·75; antennæ 23·25 lines.

And the following those of the female from Java—also preserved in alcohol :—

♀. Total length 4 in. 6 lines; head 2·5; proth. 2·25; mesoth. 11·75; metath. 9·25; abd. 22·5 + 5·75 = 28·25; antennæ 16·5 lines.

The males in this species have the metathorax curiously curved and in both sexes this segment is so articulated to the mesothorax on each side by interlocking processes as to be capable of movement upwards and forwards upon it through an arc of fully 45°—peculiarities of structure which have not been met with by me in any other species of the family. The highly indurated condition of the whole thoracic integument is also exceptional.

LONCHODES SPINICOLLIS.

Prisomera spinicollis, G. R. Gray, Syn. Phasmid., p. 16, ♀.

„ *spinicolle*, Westwood, Monogr. Phasm., p. 47, ♀.

? *Lonchodes auscultator*, Bates, Trans. Linn. Soc. Lond., Vol. xxv, p. 334, ♂.

The following are the measurements of a spirit-specimen :—

♀. Total length 4 in. 7·25 lines; head 2·5; proth. 2·25; mesoth. 12; metath. 9·5; abd. 23 + 6 (to end of supra-anal plate) = 29; antennæ 30 lines.

HAB. Galagedara, near Kandy, Ceylon,* obtained by Mr. Hugh Nevill, of the Ceylon Civil Service.

* The importance of exact habitats for species from Ceylon and S. India cannot be too strongly insisted on: I have, from both countries, species which must have lived in open parched country with but a scant covering of vegetation like that around Bangalore, Madras, &c., and species which equally certainly are inseparable from the thickest and most luxuriant tropical vegetation, all marked with no more precise locality than 'Ceylon' or 'S. India' or 'Madras.' Animals localized in this unprecise manner are all valuable enough as specimens of the species to which they belong, but they have no higher value.

The specimen agrees perfectly with the type in the British Museum, which however has lost the long and conspicuous supra-anal plate.

There can hardly be a doubt that Bates' *L. auscultator* is the male.

LONCHODES CRAWANGENSIS.

Phasma Crawangense, De Haan, Orthopt. Orient. pl. xiii, fig. 1, ♀; non pl. xi, fig. 6, ♂.

Lonchodes nematodes, Westwood, Monograph of Phasmidæ, p. 42, ♀.

A dried specimen of the female obtained by my native collector at Johore in the Malay Peninsula measures:—

♀. Total length 5 in. 2 lines; head 2; proth. 2·25; mesoth. 15; metath. 11·5; abd. 27·5 + 3·75 (to apex of 10th segment) = 31·25; antennæ 26 lines.

An immature insect closely resembling the female in general structure, and doubtless the opposite sex of the species, was obtained by Mr. W. Davison at Pahpoon, N. of Moulmein: it measures:—

♂ immature. Total length 2 in. 10·25 lines; head 1·5 lines; proth. 1·5; mesoth. 7·75; metath. 6; abd. 15 + 3·25 = 18·25; antennæ 14·5.

PHIBALOSOMA ANNAMALAYANUM.

Phib. Annamalayanum, Wood-Mason, P. A. S. B., July, 1877, p. 161, ♀.

♀. Very closely allied to *Phib. acanthopus*, from which it differs in its stouter body, its shorter and thicker legs, and in the relative proportions of the different parts of the body, particularly the meso- and meta-thorax.

The following are the measurements of a spirit-specimen:—

Total length 8 inches 9 lines; head 7 lines; mesoth. 19; metath. 16; abd. 3 in. 6·75 lines + 1 in. 2·5 lines = 4 in. 9·25 lines; antennæ 2 in. fore femur 2 in. 2 lines, tibia 2 in. 6 lines; intermediate femur 1 in. 8 lines, tibia 1 in. 8 lines; posterior femur 1 in. 11 lines, tibia 2 in. 1 line.

A lamellar process rounded off at extremity at hinder end of sixth ventral segment of the abdomen.

HAB. Annamallay forests, Southern India, a single specimen preserved in spirits, obtained by Colonel R. C. Beddome, and Travancore Hills, a much mutilated dried example, presented to me by Mr. F. Day.

A characteristically Malayan form; in which, as in *Phib. virgea* and in *Phib. acanthopus*, the female is perfectly apterous, the metanotum proper is much longer than the medial segment, and there is a process* at the hinder extremity of the sixth ventral segment of the abdomen; and which effects a sort of transition between its more immediate allies above-named and its more remote ones, *Phib. Cantori* and *Phib. Westwoodi*, in which

* Serving, possibly as actually in *Necrosia sparaxes*, &c., as a *point d'appui* for the forceps of the male in copulation.

the female has minute scale-like rudiments of organs of flight, the metanotum proper about equal to the medial segment, and the hinder extremity of the sixth ventral segment of the abdomen unarmed. In *Phib. virgea* ♂, as I have already pointed out (P. A. S. B., July 1877), the metathoracic and mesothoracic tubercles figured by Westwood are exceedingly minute rudiments of organs of flight; and the same relation of length subsisting between the two divisions of the metathorax in *Phib. acanthopus* and *Phib. Annamalayanum* obtains in it (*Phib. virgea*, the male of which we know to be a wingless insect or practically so), I expect that the males of these two species will also prove to be apterous; in which event, then the winged male ascribed to *P. acanthopus* by De Haan, and by Westwood following him, will belong to another species.

With the single exception of *Lonchodes brevipes*, this is the only species of *Phasmidæ* at present known to us from the Malabar Coast and from the hill-tops of Southern India!

PHIBALOSOMA WESTWOODI, Pl. III, Fig. 1, ♀.

Phib. Westwoodi, Wood-Mason, J. A. S. B., 1875, Vol. xlv, part ii, p. 216, ♀; P. A. S. B., July 1877.

I have examined with Professor Westwood the typical specimens of *P. Cantori* preserved in the Hopeian collection at Oxford and I find that the insects have been legitimately united by their describer; the female having small equal blunt representatives of the conspicuous cephalic tubercles seen in the male; these tubercles not having been represented by Professor Westwood in his figure of the former, I was led to suggest (*loc. supra. cit.*) that *P. Westwoodi*, which had cephalic tubercles, and those of unequal size, might be the opposite sex of *P. Cantori* ♂, the true female of which had been represented as having none. These tubercles are in *P. Cantori* placed further forwards on the disk of the head than in the present species.

Lopaphus, (Westwood), W. M.

Bacteria, Westwood (p.), *Lonchodes*, Westw. (p.), *Lopaphus*, Westw. (p.) *Necrosia*, Westw. (p.).

In J. A. S. B., Vol. XLIV, Part II, 1875, p. 217, I have described a remarkable insect, obtained by my native collector at Johore, as the female of Westwood's *Necrosia Iolas*, and pointed out the very close relationship of this species to *Lopaphus brachypterus*, *Lonchodes porus*, *L. Bootanicus*, and *Bacteria Baucis*, all of which should find a place in the same genus with it.

M. C. Stål has described the same insect from a Malaccan specimen under the name *Candaules Sparnius*.

1. LOPAPHUS BRACHYPTERUS.

Phasma brachypterum, DeHaan, Orthopt. Orient., p. 125, pl. xiii, fig. 2, ♀.

Lopaphus brachypterus, Westwood, Monogr. Phasm., p. 99, ♀.

HAB. A single specimen of the adult female was captured, with several larvæ of the same sex, by my native collector at Johore in the Malay Peninsula; Sumatra (*DeHaan*).

Well-developed organs of flight in both sexes.

2. LOPAPHUS IOLAS, Pl. III, Fig. 2, ♀.

Necrosia Iolas, Westwood, Monograph *Phasmidæ*, 1859, p. 145, pl. xix, fig. 2, ♂.

Lopaphus Iolas, Wood-Mason, J. A. S. B., 1875, Vol. xliv, pt. ii, p. 217, ♂ ♀.

Candaules Sparnius, Stål, Recens. Orthopt., III, p. 87, ♀.

HAB. Numerous males and females and larvæ captured at Johore by my native collector; Malacca (♂ *A. R. Wallace*, ♀ *C. Stål*). The typical specimen of the male is now in the Hopeian Collection at Oxford.

Tolerably well-developed organs of flight in the male, but rudimental tegmina only in the female.

3. LOPAPHUS PORUS.

Lonchodes porus, Westwood, Monogr. *Phasmidæ*, 1859, p. 42, pl. vii, fig. 9, ♂.

„ „ Wood-Mason, P. A. S. B., 1877, p. 162, ♂ ♀.

HAB. Throughout the valley of the Houg-da-rau, Upper Tenasserim.

The male has minute rudiments of organs of flight, the only vestiges of which in the female are four minute yellowish spots.

4. LOPAPHUS BOOTANICUS, Pl. II, Fig. 1, ♂.

Lonchodes Bootanicus, Westwood, Monograph of *Phasmidæ*, 1859, p. 43, pl. xxvi, fig. 8, ♀.

A male and a female from Sámagúting measure:—

♂. Total length 3 inches 3·75 lines; head 1·5; proth. 1·75; mesoth. 9·75; metath. 4·75; abd. $18·25 + 3·75 = 22$; antennæ 3 inches 5 lines. (*Type*).

♀. Total length 4 in. 0·5 line; head 2·5; proth. 2·75; mesoth. 11·25; metath. 5·25; abd. $22 + 4·75 = 26·75$ lines; antennæ 3 inches 3 lines.

The typical specimen of the female in the India (formerly East India Company's) Museum, S. Kensington, a much shrivelled and mutilated insect, wanting the terminal segment of the abdomen, is rather larger and consequently proportionately slightly longer as to the mesothorax than the specimen of which the measurements are given above: in it the mesothorax and metathorax exactly measure 13·5 and 5·75 lines respectively.

HAB. The only precise locality for the species which it is at present in my power to give is Sámagúting, Nágá Hills, whence specimens preserved in alcohol have been sent to me by Captain J. Butler, and are now in the Indian Museum.

The organs of flight have entirely disappeared from this as well as from the following species.

5. LOPAPHUS BAUCIS, Pl. II, Fig. 2, ♂.

Bacteria Baucis, Westwood, Monogr. *Phasmidæ*, 1859, p. 21, pl. viii, fig. 8, ♀.

Lonchodes Baucis, Wood-Mason, *l. s. cit.*

HAB. Abundant in the neighbourhood of Sibságar, Assam, whence I have received numerous individuals of both sexes—dried as well as in alcohol—from my valued correspondent, Mr. S. E. Peal, to whom I am also indebted for coloured sketches and much information respecting *Phasmidæ* and other Arthropods. And apparently throughout the N. E. frontier country.

The accompanying figures were taken from one of the numerous specimens collected by Mr. Peal.

I have examined the typical specimen of the female preserved in the National Collection, and I find that the stiff brown bristles figured and described by Westwood as fringing the sides of the abdomen at its base are present on one side of the body only, that they have no organic connection with the integument of the insect, and that some similar bristles lie scattered quite irregularly over the basal joints of the adjacent leg, like pelicans spilled upon a table; moreover, no trace of such setæ is detectible in a specimen of the same sex and species placed alongside of the type in the same drawer, nor in any one of the multitude of specimens in the Indian Museum. The setæ, which are apparently of a vegetable nature, have evidently got jammed between the dorsal and ventral arcs of the segments as the membrane connecting these at the sides contracted in drying.

NECROSCIA PHÆTUSA.

N. Phætusa, Westwood, Monogr. *Phasmidæ*, p. 137, pl. xxxviii, fig. 4, ♂.

N. Gargantua, id., op. cit., p. 130, pl. xxix, fig. 3, ♀ as male.

On my informing Professor Westwood that his *N. Gargantua*, which from the mutilated condition of the terminal segments of the abdomen and from the presence of ocelli he had felt compelled to describe as a male, was in reality of the opposite sex, he at once pointed out *N. Phætusa* ♂ as its true and legitimate partner.

HAB. A perfect specimen of the female, captured by my native collector on Sinkieb Island, is in the Indian Museum. The typical specimens

in the Hopeian collection at Oxford were both collected by Mr. A. R. Wallace, at Sarawak, in Borneo.

Obs. It is possible that the Sinkieb specimen, when actually compared with Westwood's typical one, may turn out to differ in much the same manner as the species of *Bacteria* from the same island does from *B. Sarawaca*, Westw.

NECROSCIA HILARIS.

Phasma (Necrosia) hilaris, Westwood, Cab. Orient. Entom. p. 77, pl. 38, fig. 1, ♀ (*Assam*).

Necrosia hilaris, id., Monogr. *Phasmidæ*, p. 155, ♀.

„ *Virbius*, id., op. cit. p. 154, pl. xvi, fig. 2, ♂ (*Malacca*).

The Indian Museum has long possessed numerous examples of *N. hilaris* ♂ ♀, both from Sikkim (*L. Mandelli*) and from the neighbourhood of Sibságar, Assam (*S. E. Peal*); but the identification of the male as *N. Virbius*, Westw. was only recently made by Professor Westwood and myself while looking through the collection of *Phasmidæ* in the Oxford Museum.

NECROSCIA MENAKA.

N. Menaka, Wood-Mason, Ann. & Mag. Nat. Hist., 1877, Ser. 4, Vol. xx, p. 130, ♀.

“ ♀. Body elongate, stoutish, of tolerably uniform width throughout. Head large, oblong, parallel-sided; vertex divided by three notches into four tubercles. Pronotum shorter and narrower than the head, flat, with a few minute granules. Mesothorax slightly tapering from the insertion of the legs forwards, granulate above and below and on the sides; its dorsal are longitudinally carinate, granulate along the top of the ridge and at the edges. Abdomen tapering slightly from the base to the emarginate apex, which carries a longitudinally carinate semioval plate; its terminal segments, dorsal and ventral, constructed much as in *Necrosia Salmanazar*, *N. maculicollis*, and *N. Sparaxes*, in all three of which also the sixth ventral segment is furnished at its hinder extremity with a peculiarly shaped process, which serves as the *point d'appui* for the claspers of the male during copulation.* Legs long and stout; the fore tibiæ and the femora and the tibiæ of the two posterior pairs subtriquetrous and carinate along the middle of the under surface. Tegmina oval, with but a slight compressed conical elevation of the carina. Wings reaching about to the end of the fifth abdominal segment; the costal area luteous brown, like the body and legs; the costal vein divided at the middle of its length, the two branches uniting again near the extremity; posterior area milk-white, conspicuously

* A fact ascertained by actual observation in *N. maculicollis*.

tessellated with dark smoky-quartz-colour, all the transverse veinlets being broadly and distinctly margined on each side with this colour.

"Total length 3 inches 7 lines; head 3·25 lines, prothorax 2·5, mesothorax 7·25; abdomen 1 inch 8 lines + 4 = 2 inches; antennæ 2 inches 5 lines; wings 1 inch 10 lines; tegmina 5·5 lines; fore femur 12·75 lines, tibia 14·5, tarsus 6·75; intermediate femur 8·5 lines, tibia 9·5, tarsus 5; posterior femur 13·5 lines, tibia 14, tarsus 5·75.

"*Hab.* Southern slopes of the Khasi hills.

"Closely allied to *N. Salmanazar*, Westw. (Monogr. Phasm. p. 153, pl. xvi. fig. 6), ♀, from the Philippines."

A specimen marked 'Borneo' is in the Hopeian collection at Oxford.

PHYLLIUM WESTWOODI, Pl. III, Fig. 3, ♂.

P. Westwoodi, Wood-Mason, J. A. S. B., 1875, Vol. xlv, pt. ii, pp. 218-19, ♂, ♀ pl. xvii, ♀.

I now give a figure of the male from the specimen obtained at Pah-poon by Mr. W. Davison, to whom I have since been indebted for a fine series of specimens of the same species all taken by him from one lime-tree at Malewoon in the Mergui District; these differ from the typical ones only in their rather smaller size, and are of value in proving that I had correctly paired my insects on structural grounds alone. Amongst this series of specimens are larvæ of the male, which shall be figured and described on a future occasion, as they show, in their lozenge-shaped abdomen, it is hardly doubtful, an ancestral phase of the species, and thus point to *Ph. Gergon* of the Philippines, which is lozenge-shaped as to the abdomen in the adults of both sexes.

1. PHYLLIUM LOBIVENTRE.

Ph. lobiventre, Blanchard in Dumont d'Urville, Voy. au Pôle Sud, Zoologie, iv, 359, Orthopt. pl. i, fig. 9, ♂.

" Westwood, Monogr. Phasmidæ, p. 174 ♂ ♀, pl. xxxix, fig. 5, ♀.

Chitoniscus lobiventre, Stål, Recens. Orthopt., III, p. 105, ♀.

HAB. I have just purchased a female of this species from the island of Viti Lebu; so that we now have both species of this section of the genus.

2. PHYLLIUM FEEJEANUM.

Ph. Feejeanum, Westwood, Trans. Entom. Soc. London, 3rd Series, Proceedings, 4th April 1864, p. 17, ♂ ♀.

Ph. Novæ-britanniæ, Wood-Mason, Ann. & Mag. Nat. Hist., Ser. 4, 1877, Vol. xx, p. 76, ♀.

While looking through the collection of *Phasmidæ* in the Oxford Museum I met with the two sexes of an insect, to which no name had yet

been affixed, but the female of which was clearly identical with one of those recently described by me in the 'Annals and Magazine of Natural History,' and which Prof. Westwood, who has since furnished me with the above reference, informed me was one of the types of a species described by himself several years before.

HAB. Fiji Islands (*Westwood*); and New Britain (*J. W. M. fide C. French*).

EXPLANATION OF THE PLATES.

(N. B. All the figures are of the natural size except where the contrary is stated.)

Plate II.

Fig. 1. *Lopaphus Bootanicus*, Westw. ♂. 1a; The terminal segments of the abdomen, from the side.

Fig. 2. *Lopaphus Baucis*, Westw. ♂. 2a; The terminal segments of the abdomen, from the side.

Fig. 3. *Bacteria Shiva*, Westw. ♂. 3a; The terminal segments of the abdomen, from the side, enlarged: 3b; the same, from above, enlarged.

Plate III.

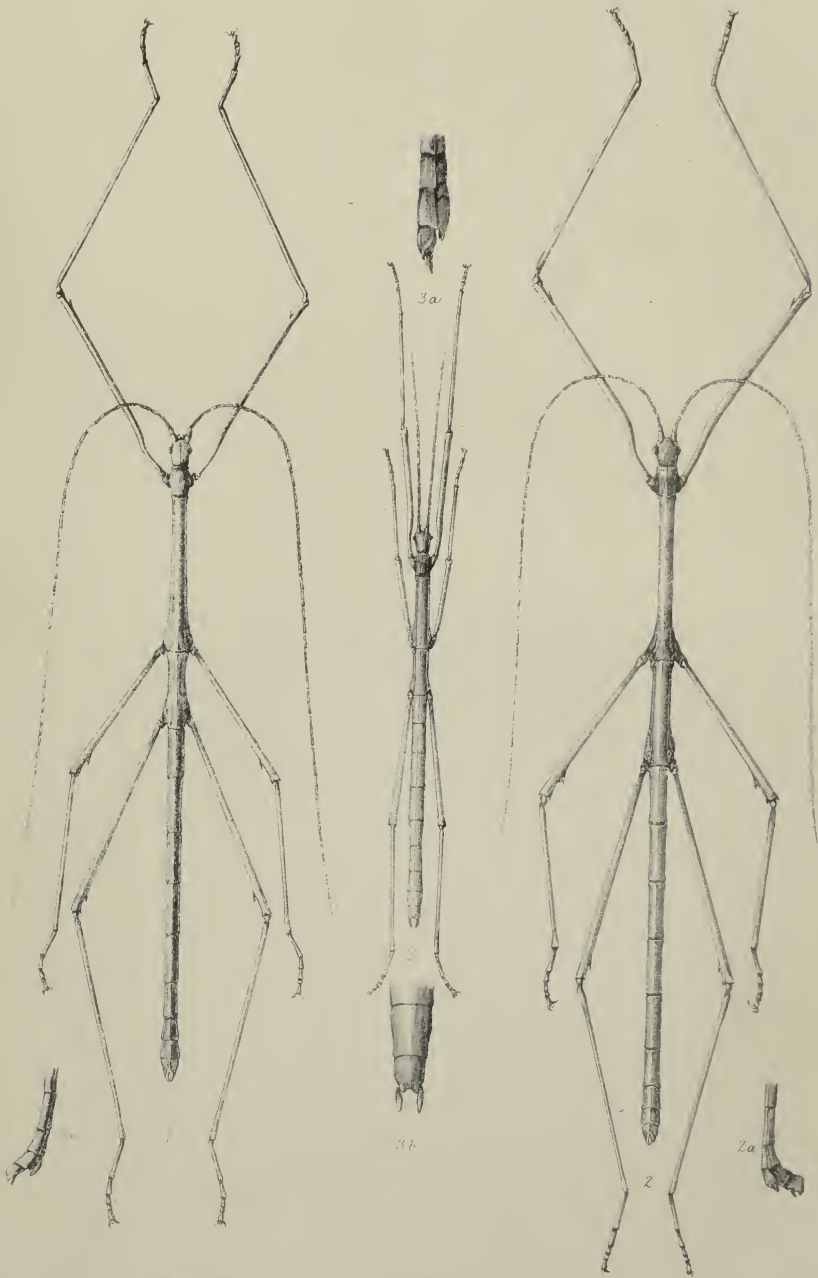
Fig. 1. *Phibalosoma Westwoodi*, W.-M., ♀, the head, from above. 1a; The same, from the right side. 1b; the same, from the left. 1c; the terminal segments of the abdomen, from above. 1d; the same, from the side.

Fig. 2. *Lopaphus Iolas*, Westw. ♀. 2a; the terminal segments of the abdomen, from the side. 2b; the same, from below.

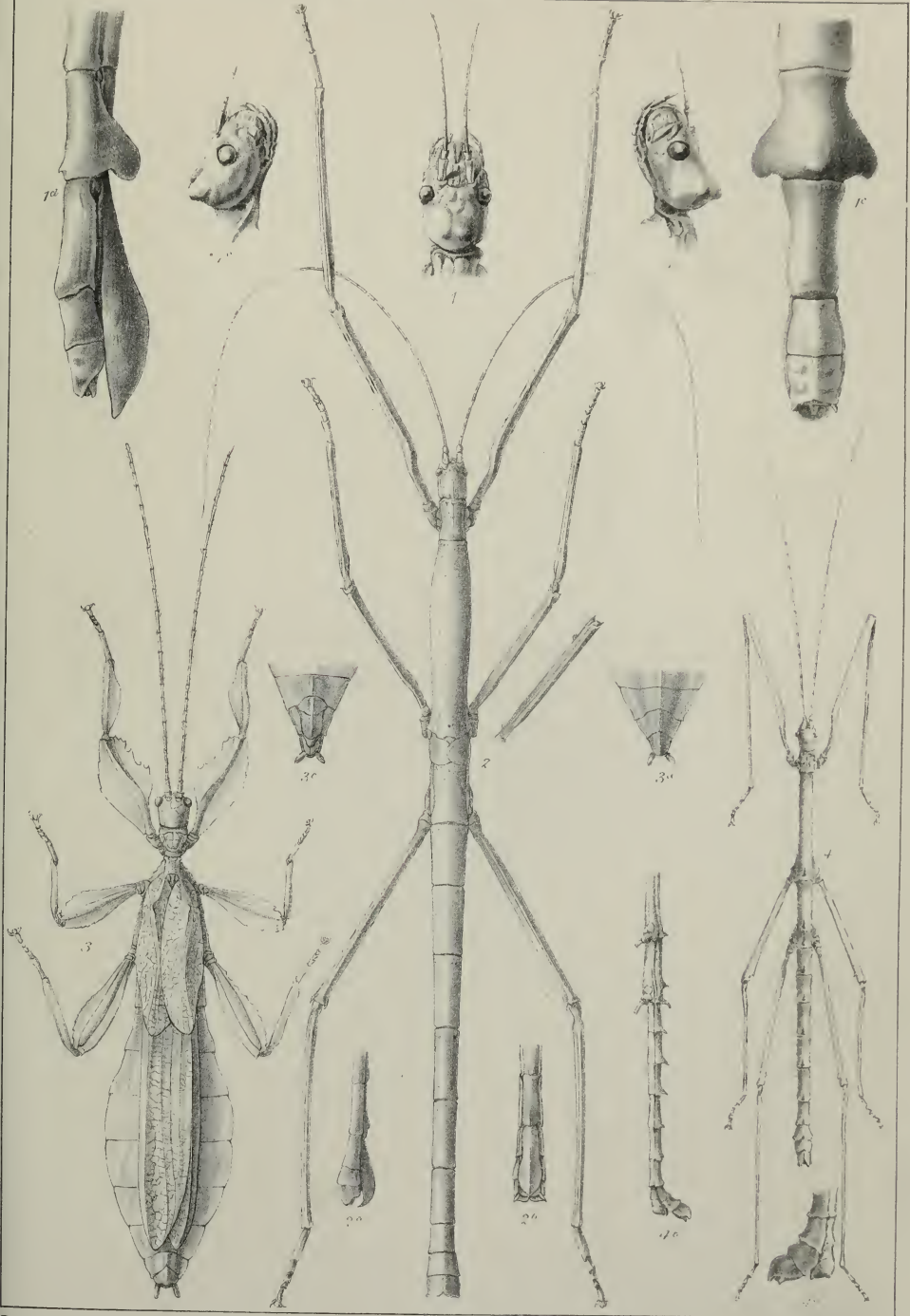
Fig. 3. *Phyllium Westwoodi*, W.-M., ♂. 3a; The terminal segments of the abdomen, from above. 3b; the same, from below.

Fig. 4. *Lonchodes Austeni*, W.-M., ♂. 4a; The terminal segments of the abdomen, from the side, enlarged. 4b; the two hindermost divisions of the thorax with the abdomen, in profile, to show the dorsal spines.





Stick Insects of the W-M. Group



Behari del. J. W. M. del. exc.